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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/887,056	06/25/2001	Takeshi Yoshimoto	210300US2S	6576
22850	7590	03/08/2005		
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER PEREZ, ANGELICA	
			ART UNIT 2684	PAPER NUMBER

DATE MAILED: 03/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/887,056

Applicant(s)

YOSHIMOTO, TAKESHI

Examiner

Angelica M. Perez

Art Unit

2684

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date Nov. 24, 2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-22 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugar (Sugar et al.; WO 99/09,721) in view of Yoshioka (Yoshioka et al.; SR (-13 1999.11)).

Regarding claims 1, 7 and 13, Sugar teaches of a radio communication system (figure 1) and electronic apparatus (column 2, lines 27-29) and semiconductor (page 5, lines 18-20) comprising: a radio reception unit for receiving a radio signal (figure 1, items 100 and 101) including a receiver for receiving the radio signal (lines 1-3 of the abstract) extracting a characteristic of the received radio signal (page 5, lines 30-31), and converting the received radio signal into a reception signal (lines 3 and 4 of the abstract and page 5, lines 21-29); and a reception signal processing unit for converting the reception signal into reception data on the basis of the extracted characteristic of the radio signal (lines 6 and 7 of the abstract and pages 5 and 6; lines 29-31 and 1-8, respectively), a radio signal characteristic extractor to extracting the characteristic of the received radio signal (figure 1, item 103; pages 5 and 6, lines 21-30 and 1-8, respectively), and a reception radio signal converter configured to convert the received

Art Unit: 2684

radio signal into a reception signal by selecting a conversion scheme on the basis of the extracted characteristic of the radio signal (page 5, lines 5-8, 15-18 and 26-29, and figure 3, item 307; where the function of demodulating takes place); and a reception signal processing unit including a demodulator configured to demodulate the reception signal by selecting a demodulation scheme on the basis of the extracted characteristic of the radio signal (page 5, lines 26-29), a reception communication protocol processing unit (figure 1, item 103) configured to execute a communication protocol process of the demodulated reception signal by selecting a communication protocol processing scheme on the basis of the extracted characteristic of the radio signal (page 5 and 6, lines 29-31 and 1-8, respectively), and a decoder for decoding the reception signal ((page 6, lines 2-6), that has undergone the communication protocol process, by selecting a decoding scheme on the basis of the extracted characteristic of the radio signal (page 5, lines 29-31 and page 6, lines 1-2).

Sugar teaches about a DSP that perform receive/transmit end functions, Although DSP systems comprise signal characteristic extractors, examiner would like to introduce a piece of art that specifically mention the characteristic extractor.

In related art, concerning a proposal for effective feature extraction method for the automatic modulation recognition, Yoshioka teaches of a n apparatus that extracts features from received signals, identifies the modulation types and performs modulation according to the types of communications conditions (See abstract).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Sugar's signal extraction and transmission of signals

Art Unit: 2684

system/apparatus with Yoshioka's adaptive feature extractor in order to alter the transmission parameters and modulation types accordingly to various communication conditions, as taught by Yoshioka.

Regarding claims 3 and 9, Sugar in view of Yoshioka teaches all the limitations according to claims 1 and 7, respectively. In addition, Sugar teaches where the reception radio signal converter converts the received radio signal into the reception signal by selecting a conversion scheme on the basis of the extracted characteristic of the radio signal (page 6, lines 2-6).

Regarding claims 4, 10 and 15, Sugar in view of Yoshioka teaches all the limitations according to claim 1, 7 and 13, respectively. Sugar further teaches of a transmission signal processing unit configured to convert transmission data into a transmission signal on the basis of the extracted characteristic of the radio signal (page 5, lines 21-30); and a radio transmission unit configured to convert the transmission signal into a radio signal, and transmitting the converted radio signal (pages 5 and 6, lines 15-32 and 1-8, respectively).

Regarding claims 6 and 12 and 16, Sugar in view of Yoshioka teaches all the limitations according to claim 5, 11 and 15, respectively. Sugar further teaches where the transmission radio signal converter converts the modulated transmission data into the radio signal by selecting a conversion scheme on the basis of the extracted characteristic of the radio signal (page 5, line 21-31 and page 6, lines 1-6).

Regarding claims 17 and 21, Sugar teaches of a semiconductor integrated circuit device (page 5, lines 18-20) and a method for a radio communication, comprising a

Art Unit: 2684

receiver configured to receive a radio signal (lines 1-3 of the abstract); a reception radio signal converter configured to convert the received radio signal into a reception signal by selecting a conversion scheme on the basis of the extracted characteristic of the radio signal (page 5, lines 5-8, 15-18 and 26-29, and figure 3, item 307; where the function of demodulating takes place); a demodulator configured to demodulate the reception signal by selecting a demodulation scheme on the basis of the extracted characteristic of the radio signal (page 5, lines 26-29); a reception communication protocol processing unit (figure 1, item 103) configured to execute a communication protocol process of the demodulated reception signal by selecting a communication protocol processing scheme on the basis of the extracted characteristic of the radio signal (page 5 and 6, lines 29-31 and 1-8, respectively); and a decoder configured to decode the reception signal (page 6, lines 2-6), that has undergone the communication protocol process, by selecting a decoding scheme on the basis of the extracted characteristic of the radio signal (page 5, lines 29-31 and page 6, lines 1-2).

Sugar teaches about a DSP that perform receive/transmit end functions, Although DSP systems comprise signal characteristic extractors, examiner would like to introduce a piece of art that specifically mention the characteristic extractor.

In related art, concerning a proposal for effective feature extraction method for the automatic modulation recognition, Yoshioka teaches of an apparatus that extracts features from received signals, identifies the modulation types and performs modulation according to the types of communications conditions (See abstract).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Sugar's signal extraction and transmission of signals system/apparatus with Yoshioka's adaptive feature extractor in order to alter the transmission parameters and modulation types accordingly to various communication conditions, as taught by Yoshioka.

Regarding claims 5, 11, 18, 20, 22, Sugar in view of Yoshioka teaches all the limitations according to claim 4, 17 19 and 21, respectively. Sugar further teaches where the transmission signal processing unit comprises an encoder configured to encode the transmission data by selecting an encoding scheme on the basis of the extracted characteristic of the radio signal (page 6, line 2-8), a transmission communication protocol processing unit configured to execute a communication protocol process of the encoded transmission data by selecting a communication protocol processing scheme on the basis of the extracted characteristic of the radio signal (page 5, lines 21-31 and page 6, lines 1-2), and a modulator configured to modulate the transmission data, that has undergone the communication protocol process (page 6, lines 21-30), by selecting a modulation scheme on the basis of the extracted characteristic of the radio signal, and the radio transmission unit comprises a transmission radio signal converter configured to convert the modulated transmission data into a radio signal (page 5, lines 26-29), and a radio transmitter configured to transmit the converted radio signal (page 5, lines 21-29; where modulation and conversion are inherent steps of digital processing).

Regarding claim 19, Sugar in view of Yoshioka teaches all the limitations according to claim 18. Sugar further teaches where the radio transmission unit comprises a transmission radio signal converter configured to convert the transmission signal into a radio signal (page 5, line 21-31 and page 6, lines 1-6), and a transmission unit configured to transmit the converted radio signal (page 5, lines 21-29)

Regarding claim 30, Sugar teaches of a method (See abstract) comprising the steps of receiving a radio signal (figure 1, items 100 and 101 and lines 3-4 of the abstract), extracting a characteristic of the received radio signal (page 5, lines 30-31), and converting the received radio signal into a reception signal (lines 3 and 4 of the abstract and page 5, lines 21-29); and a reception signal processing unit for converting the reception signal into reception data on the basis of the extracted characteristic of the radio signal (lines 6 and 7 of the abstract and pages 5 and 6; lines 29-31 and 1-8, respectively); executing a transmission signal process of the encoded transmission data by selecting a communication protocol processing scheme on the basis of the extracted characteristic of the radio signal (page 5, lines 21-31 and page 6, lines 1-2); executing a transmission signal process of the encoded transmission signal by selecting a transmission signal processing scheme on the basis of the extracted characteristic of the radio signal (page 5, lines 29-31 and page 6, lines 1-2); converting the transmission signal, that has undergone the transmission signal process into a radio signal, by selecting a conversion scheme on the basis of the extracted characteristic of the radio signal (page 5, line 21-31 and page 6, lines 1-6).

Art Unit: 2684

Sugar teaches about a DSP that perform routine receive end functions, Although DSP systems comprise signal characteristic extractors, examiner would like to introduce a piece of art that specifically mention the characteristic extractor.

In related art, concerning a proposal for effective feature extraction method for the automatic modulation recognition, Yoshioka teaches of a n apparatus that extracts features from received signals, identifies the modulation types and performs modulation according to the types of communications conditions (See abstract).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Sugar's signal extraction and transmission of signals system/apparatus with Yoshioka's adaptive feature extractor in order to alter the transmission parameters and modulation types accordingly to various communication conditions, as taught by Yoshioka.

3. Claims 23-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugar in view of Yoshioka, and further in view of Shamlou (Shamlou et al.; US Patent No.: 6,690,949 B1).

Regarding claims 23, 25 and 27, Sugar teaches of a radio communication system (figure 1), electronic apparatus (column 2, lines 27-29) and semiconductor (page 5, lines 18-20) comprising: a radio reception unit including a receiver configured to receive a radio signal (figure 1, items 100 and 101), including a receiver for receiving the radio signal (lines 1-3 of the abstract) extracting a characteristic of the received radio signal (page 5, lines 30-31), and converting the received radio signal into a

Art Unit: 2684

reception signal (lines 3 and 4 of the abstract and page 5, lines 21-29); and a reception signal processing unit for converting the reception signal into reception data on the basis of the extracted characteristic of the radio signal (lines 6 and 7 of the abstract and pages 5 and 6; lines 29-31 and 1-8, respectively), a radio signal characteristic extractor to extracting the characteristic of the received radio signal (figure 1, item 103; pages 5 and 6, lines 21-30 and 1-8, respectively), and a reception radio signal converter configured to convert the received radio signal into a reception signal by selecting a conversion scheme on the basis of the extracted characteristic of the radio signal (page 5, lines 5-8, 15-18 and 26-29, and figure 3, item 307; where the function of demodulating takes place); converting transmission data into a transmission signal on the basis of the extracted characteristic of the radio signal (page 5, lines 21-30); and a radio transmission unit configured to convert the transmission signal into a radio signal, and transmitting the converted radio signal (pages 5 and 6, lines 15-32 and 1-8, respectively).

Sugar teaches about a DSP that perform receive/transmit functions, Although DSP systems comprise signal characteristic extractors, examiner would like to introduce a piece of art that specifically mention the characteristic extractor.

In related art, concerning a proposal for effective feature extraction method for the automatic modulation recognition, Yoshioka teaches of an apparatus that extracts features from received signals, identifies the modulation types and performs modulation according to the types of communications conditions (See abstract).

Art Unit: 2684

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Sugar's signal extraction and transmission of signals system/apparatus with Yoshioka's adaptive feature extractor in order to alter the transmission parameters and modulation types accordingly to various communication conditions, as taught by Yoshioka.

Sugar teaches of a DSP processing unit that performs/executes modem/baseband reception/transmission signal processing. Examiner presents a piece of art that specifically teaches of a modem/baseband reception/transmission signal processing unit for executing the functions described above.

In related art concerning a system and process for supporting multiple wireless standards with a single circuit architecture, Shamlou teaches of a modem/baseband reception/transmission signal processing unit (figure 5, item 150 and column 4, lines 7-25).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Sugar's and Yoshioka's signal extraction and transmission of signals system/apparatus with Shamlou's modem/baseband reception/transmission signal processing unit in order to obtain a simpler and more economical system and apparatus resulting from baseband utilization.

Regarding claims 24, 26, 28 and 29, Sugar in view of Yoshioka, and further in view of Shamlou teaches all the limitations according to claims 23, 25 and 27, respectively. Sugar further teaches where the radio transmission unit comprises a transmission radio signal converter configured to convert the transmission signal into a

Art Unit: 2684

radio signal (page 5, line 21-31 and page 6, lines 1-6), and a transmission unit configured to transmit the converted radio signal (page 5, lines 21-29) and the transmission radio signal converter converts the modulated transmission data into the radio signal by selecting a conversion scheme on the basis of the extracted characteristic of the radio signal (page 5, line 21-31 and page 6, lines 1-6).

4. Applicant's arguments with respect to claims 1-30 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angelica Perez whose telephone number is 703-305-8724. The examiner can normally be reached on 7:15 a.m. - 3:55 p.m., Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 703-308-7745. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and for After Final communications.

Art Unit: 2684

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2600's customer service number is 703-306-0377.



Angelica Perez
(Examiner)



NICK CORSARO
PRIMARY EXAMINER

Art Unit 2684

January 28, 2005
